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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/366,299	08/02/1999	SEOK-JIN HAM	678-318(P882	2887

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EXAMINER

NGUYEN, TU X

ART UNIT PAPER NUMBER

2684

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/366,299

Applicant(s)

HAM, SEOK-JIN

Examiner

Tu X Nguyen

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/31/03.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5,8-26 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

**Response to Arguments**

1. In view of arguments filed on 10/31/03, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise the following:

File a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 8-10, 12-13, 15-16, 19-20 and 22-26, rejected under 35 U.S.C. 103(a) as being unpatentable over Smith and further in view of Renton.

As to claims 1, 16, and 23-24, Smith discloses a method of billing service comprising the steps of:

setting a time when service initiation request or a service resumption request is generated as a service start time and initiating a call (see col.1 lines 9-13);

setting a service suspension request time as a service end time upon generation of a service suspension request by the system (see 9, fig.1 and col.4 lines 46-49) during the service and suspending the service;

sending billing data including the service start time and the service end time in the service suspended state, and determining whether a service resumption request is generated; and ending the service when a service termination request is generated in the service suspended state (see col.4 lines 13-16).

Smith fails to disclose billing service in an electronic switch in a cellular network.

Renton discloses billing service in an electronic switch in a cellular network (see abstract and col.2 lines 27-29). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Smith with the above teaching of Renton in order to provide cellular transceiver connected to the public switched telephone network as suggested by Renton (see col.4 lines 5-15).

As to claims 2-3, the modified Smith discloses the service initiation request is generated when an outgoing call, an incoming call is answered (see Smith, col.3 lines 30-31).

As to claims 9-10, 12-13, 19-20 and 25-26, the modified Smith discloses the service suspended period is the difference between a service suspension start time and service suspension end time (see Smith, col.1 lines 52-63), "noncommunicating states" corresponds to "duration of service suspension start time and end time".

As to claims 15 and 22, the modified Smith discloses the billing data further includes the number of service suspension occurrences (see Smith, col.1 lines 55-56)

Art Unit: 2684

"noncommunicating states" corresponds to "number of service suspension occurrences".

4. Claims 4-5, and 17-18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, in view of Renton and further in view of Smolik (US Patent 6,381,455).

As to claims 4-5 and 17-18, the modified Smith fails to disclose the service suspension signal is sent by the BSC to notify that a frames are not normally transmitted or a frame transmission resumes.

Smolik discloses the service suspension signal is sent by the BSC to notify that a frames are not normally transmitted or a frame transmission resumes (see col.8 lines 17-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Smith with the above teaching of Smolik in order to detecting unexpected call drop.

5. Claims 11, 14 and 21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, in view of Smith and further in view of Cauffman et al. (US Patent 5,325,290).

As to claim 11 and 21, the modified Smith fails to designating an unique index.

Cauffman et al. disclose designating an unique index (see col.16 lines 45-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the modified Smith with the above teaching

Art Unit: 2684

of Cauffman et al. in order to provide an unique index for the purpose of the consumer or other associated systems ease of record retrieval.

As to claim **14**, the modified Smith discloses the service suspension start time and the service suspension end time are stored according to different indexes (see Cauffman et al., col.20 lines 51-57).

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu Nguyen whose telephone number is (703) 305-3427. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MAUNG NAY A, can be reached at (703) 308-7749.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 2600 Customer Service Office at (703) 306-0377.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9314 (Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

TN  
November 18, 2003

  
NAY MAUNG  
SUPERVISORY PATENT EXAMINER